

S/N Unknown

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Kie Y. Ahn et al.

Examiner: Unknown

Serial No.: Unknown

Group Art Unit: Unknown

Filed: Herewith

Docket: 1303.026US1

Title: HIGHLY RELIABLE AMORPHOUS HIGH-K GATE OXIDE ZrO<sub>2</sub>POWER OF ATTORNEY BY ASSIGNEE AND  
CERTIFICATE BY ASSIGNEE UNDER 37 CFR § 3.73(b)Commissioner for Patents  
Washington, D.C. 20231

Micron Technology, Inc., assignee of the entire right, title and interest in the above-identified application by assignment attached hereto, hereby appoints the attorneys and agents of the firm of SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A., listed as follows:

Anglin, J. Michael	Reg. No. 24,916	Harris, Robert J.	Reg. No. 37,346	Nelson, Albin J.	Reg. No. 28,650
Arora, Suneel	Reg. No. 42,267	Hill, Stanley K.	Reg. No. 37,548	Nicholson, Lea A.	Reg. No. P-48,346
Bookman, Marvin L.	Reg. No. 38,377	Jackson Hubsch, Katharine A.	Reg. No. 47,670	Nielsen, Walter W.	Reg. No. 25,539
Bianchi, Timothy E.	Reg. No. 39,610	Jurkovich, Palti J.	Reg. No. 44,813	Padys, Danny J.	Reg. No. 35,635
Billion, Richard E.	Reg. No. 32,836	Kalis, Janal M.	Reg. No. 37,650	Parker, J. Kevin	Reg. No. 33,024
Black, David W.	Reg. No. 42,331	Klima-Silberg, Catherine I.	Reg. No. 40,052	Perdok, Monique M.	Reg. No. 42,989
Brennan, Leoniede M.	Reg. No. 35,832	Kluth, Daniel J.	Reg. No. 32,146	Peret, Andrew R.	Reg. No. 41,246
Brennan, Thomas F.	Reg. No. 35,075	Lacy, Rodney L.	Reg. No. 41,136	Peterson, David C.	Reg. No. 47,857
Brooks, Edward J., III	Reg. No. 40,925	Lemaire, Charles A.	Reg. No. 36,198	Prout, William F.	Reg. No. 33,995
Chadwick, Robin A.	Reg. No. 36,477	LeMoine, Dana B.	Reg. No. 40,062	Schumm, Sherry W.	Reg. No. 39,422
Clark, Barbara J.	Reg. No. 38,107	Lundberg, Steven W.	Reg. No. 30,568	Schwegman, Michael L.	Reg. No. 25,816
Clise, Timothy B.	Reg. No. 40,957	Maki, Peter C.	Reg. No. 42,832	Scott, John C.	Reg. No. 38,613
Dahl, John M.	Reg. No. 44,639	Malen, Peter L.	Reg. No. 44,894	Smith, Michael G.	Reg. No. 45,368
Drake, Eduardo E.	Reg. No. 40,594	Mates, Robert E.	Reg. No. 35,271	Speier, Gary J.	Reg. No. 45,458
Erfbreitson, Janet E.	Reg. No. 39,665	McCrackin, Ann M.	Reg. No. 42,858	Steffey, Charles E.	Reg. No. 25,179
Forrest, Bradley A.	Reg. No. 30,837	McTavish, Hugh E.	Reg. No. P-48,341	Stordal, Leif T.	Reg. No. 46,251
Gamon, Owen J.	Reg. No. 36,143	Mehrle, Joseph P.	Reg. No. 45,535	Terry, Kathleen R.	Reg. No. 31,884
Gornic, Gregory J.	Reg. No. 36,530	Moore, Charles L., Jr.	Reg. No. 33,742	Tong, Viet V.	Reg. No. 45,416
Gortych, Joseph E.	Reg. No. 41,791	Muller, Mark V.	Reg. No. 37,509	Viksmis, Ann S.	Reg. No. 37,748
Greaves, John N.	Reg. No. 40,362	Nama, Kash	Reg. No. 44,255	Woessner, Warren D.	Reg. No. 30,440
Haack, John L.	Reg. No. 36,154				

and also attorney Michael L. Lynch (Reg. No. 30,871) of Micron Technology, Inc., as its attorneys with full power of substitution to prosecute this application and to transact all business in the Patent and Trademark Office in connection therewith.

The assignee certifies that the above identified assignment has been reviewed and to the best of the assignee's knowledge and belief, title is in the assignee.

Please direct all correspondence regarding this application to the following:

Schwegman, Lundberg, Woessner & Kluth, P.A.  
Attn: David C. Peterson  
P.O. Box 2938  
Minneapolis, MN 55402

Telephone: (612) 373-6944  
Facsimile: (612) 339-3061

Dated: 8-29-2001

MICRON TECHNOLOGY, INC.

By: [Signature]Name: Michael L. LynchTitle: Chief Patent Counsel

**DECLARATION FOR PATENT APPLICATION**

As a below named inventor I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name;

I believe I am an original, first an joint inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled:

**HIGHLY RELIABLE AMORPHOUS HIGH-K GATE OXIDE ZrO<sub>2</sub> .**

The specification of which is attached hereto.

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose all information which is material to the patentability of this application in accordance with Title 37, Code of Federal Regulations, § 1.56 (see page 3 attached hereto).

I hereby claim foreign priority benefits under Title 35, United States Code, §119/365 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on the basis of which priority is claimed:

**No such claim for priority is being made at this time.**

I hereby claim the benefit under 35 U.S.C. § 119(e) of any United States provisional application(s) listed below:

**No such claim for priority is being made at this time.**

I hereby claim the benefit under Title 35, United States Code, § 120/365 of any United States and PCT international application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, § 1.56(a) which became available between the filing date of the prior application and the national or PCT international filing date of this application.

**No such claim for priority is being made at this time.**

Serial No. not assigned

Filing Date: not assigned

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full Name of joint inventor number 1 : **Kie Y. Ahn**Citizenship: **United States of America**Residence: **Chappaqua, NY**

Post Office Address: 639 Quaker St.

Chappaqua, NY 10514

Signature: Kie Y Ahn  
Kie Y. AhnDate: August 23, 2001Full Name of joint inventor number 2 : **Leonard Forbes**Citizenship: **United States of America**Residence: **Corvallis, OR**Post Office Address: 965 NW Highland Terrace  
Corvallis, OR 97330Signature: \_\_\_\_\_  
Leonard Forbes

Date: \_\_\_\_\_

Full Name of inventor:

Citizenship:

Residence:

Post Office Address:

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Full Name of inventor:

Citizenship:

Residence:

Post Office Address:

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

§ 1.56 Duty to disclose information material to patentability.

(a) A patent by its very nature is affected with a public interest. The public interest is best served, and the most effective patent examination occurs when, at the time an application is being examined, the Office is aware of and evaluates the teachings of all information material to patentability. Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section. The duty to disclose information exists with respect to each pending claim until the claim is canceled or withdrawn from consideration, or the application becomes abandoned. Information material to the patentability of a claim that is canceled or withdrawn from consideration need not be submitted if the information is not material to the patentability of any claim remaining under consideration in the application. There is no duty to submit information which is not material to the patentability of any existing claim. The duty to disclose all information known to be material to patentability is deemed to be satisfied if all information known to be material to patentability of any claim issued in a patent was cited by the Office or submitted to the Office in the manner prescribed by §§ 1.97(b)-(d) and 1.98. However, no patent will be granted on an application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct. The Office encourages applicants to carefully examine:

- (1) prior art cited in search reports of a foreign patent office in a counterpart application, and
- (2) the closest information over which individuals associated with the filing or prosecution of a patent application believe any pending claim patentably defines, to make sure that any material information contained therein is disclosed to the Office.

(b) Under this section, information is material to patentability when it is not cumulative to information already of record or being made of record in the application, and

- (1) it establishes, by itself or in combination with other information, a prima facie case of unpatentability of a claim; or
- (2) it refutes, or is inconsistent with, a position the applicant takes in:
  - (i) opposing an argument of unpatentability relied on by the Office, or
  - (ii) asserting an argument of patentability.

A prima facie case of unpatentability is established when the information compels a conclusion that a claim is unpatentable under the preponderance of evidence, burden-of-proof standard, giving each term in the claim its broadest reasonable construction consistent with the specification, and before any consideration is given to evidence which may be submitted in an attempt to establish a contrary conclusion of patentability.

(c) Individuals associated with the filing or prosecution of a patent application within the meaning of this section are:

- (1) Each inventor named in the application;
- (2) Each attorney or agent who prepares or prosecutes the application; and
- (3) Every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, with the assignee or with anyone to whom there is an obligation to assign the application.

(d) Individuals other than the attorney, agent or inventor may comply with this section by disclosing information to the attorney, agent, or inventor.

**DECLARATION FOR PATENT APPLICATION**

As a below named inventor I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name;

I believe I am an original, first an joint inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled:

**HIGHLY RELIABLE AMORPHOUS HIGH-K GATE OXIDE ZrO<sub>2</sub> .**

The specification of which is attached hereto.

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose all information which is material to the patentability of this application in accordance with Title 37, Code of Federal Regulations, § 1.56 (see page 3 attached hereto).

I hereby claim foreign priority benefits under Title 35, United States Code, § 119/365 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on the basis of which priority is claimed:

**No such claim for priority is being made at this time.**

I hereby claim the benefit under 35 U.S.C. § 119(e) of any United States provisional application(s) listed below:

**No such claim for priority is being made at this time.**

I hereby claim the benefit under Title 35, United States Code, § 120/365 of any United States and PCT international application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, § 1.56(a) which became available between the filing date of the prior application and the national or PCT international filing date of this application.

**No such claim for priority is being made at this time.**

Serial No. not assigned

Filing Date: not assigned

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full Name of joint inventor number 1 : **Kie Y. Ahn**Citizenship: **United States of America**Residence: **Chappaqua, NY**

Post Office Address: 639 Quaker St.

Chappaqua, NY 10514

Signature: \_\_\_\_\_

Kie Y. Ahn

Date: \_\_\_\_\_

Full Name of joint inventor number 2 : **Leonard Forbes**Citizenship: **United States of America**Residence: **Corvallis, OR**

Post Office Address: 965 NW Highland Terrace

Corvallis, OR 97330

Signature: \_\_\_\_\_

Leonard Forbes

Date: 24 AUG 2001

Full Name of inventor:

Citizenship:

Residence:

Post Office Address:

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Full Name of inventor:

Citizenship:

Residence:

Post Office Address:

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

§ 1.56 Duty to disclose information material to patentability.

(a) A patent by its very nature is affected with a public interest. The public interest is best served, and the most effective patent examination occurs when, at the time an application is being examined, the Office is aware of and evaluates the teachings of all information material to patentability. Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section. The duty to disclose information exists with respect to each pending claim until the claim is canceled or withdrawn from consideration, or the application becomes abandoned. Information material to the patentability of a claim that is canceled or withdrawn from consideration need not be submitted if the information is not material to the patentability of any claim remaining under consideration in the application. There is no duty to submit information which is not material to the patentability of any existing claim. The duty to disclose all information known to be material to patentability is deemed to be satisfied if all information known to be material to patentability of any claim issued in a patent was cited by the Office or submitted to the Office in the manner prescribed by §§ 1.97(b)-(d) and 1.98. However, no patent will be granted on an application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct. The Office encourages applicants to carefully examine:

- (1) prior art cited in search reports of a foreign patent office in a counterpart application, and
- (2) the closest information over which individuals associated with the filing or prosecution of a patent application believe any pending claim patentably defines, to make sure that any material information contained therein is disclosed to the Office.

(b) Under this section, information is material to patentability when it is not cumulative to information already of record or being made of record in the application, and

- (1) it establishes, by itself or in combination with other information, a prima facie case of unpatentability of a claim; or
- (2) it refutes, or is inconsistent with, a position the applicant takes in:
  - (i) opposing an argument of unpatentability relied on by the Office, or
  - (ii) asserting an argument of patentability.

A prima facie case of unpatentability is established when the information compels a conclusion that a claim is unpatentable under the preponderance of evidence, burden-of-proof standard, giving each term in the claim its broadest reasonable construction consistent with the specification, and before any consideration is given to evidence which may be submitted in an attempt to establish a contrary conclusion of patentability.

(c) Individuals associated with the filing or prosecution of a patent application within the meaning of this section are:

- (1) Each inventor named in the application;
- (2) Each attorney or agent who prepares or prosecutes the application; and
- (3) Every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, with the assignee or with anyone to whom there is an obligation to assign the application.

(d) Individuals other than the attorney, agent or inventor may comply with this section by disclosing information to the attorney, agent, or inventor.